IDEA-1112
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8 MAR 1963

MEMORANDUM FOR: Deputy Assistant Director, OSA-DD/R

SUBJECT : U-2 Problems

REFERENCE : Memo from DAD/OSA-DD/R, Dated 4 March 1963
Subject: "U-2 Problems" (IDEA 1094)

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1. Both this office and [redacted] are fully, and more recently, painfully aware of the problems mentioned in your memorandum. We have been in almost daily contact with each other concerning them and have been vigorously and conscientiously pursuing a course of corrective action on each one. Here is a summary of "where we're at" on each problem.

a. Cockpit/Q-Bay Pressurization

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(1) LAC performed a thorough functional check on all the pressurization valves and regulators removed from Article 342 at [redacted] Minor deviations in tolerances were noted on four of the items. The remaining six checked out satisfactorily. None of the deviations could have caused the pressurization problems encountered on Article 342. (See [redacted]5925, dated 4 March 1963) 25X1A2g

(2) LAC has reviewed quality control procedures with its suppliers of pressurization valves and regulators. They have re-emphasized the need for 100% quality control by these suppliers. They are also establishing an in-plant quality control program for the inspection of items furnished by these suppliers. LAC presently lacks the capability to perform 100% functional checking of these items. They have instituted a spot-check inspection procedure and will institute a 100% inspection procedure if deemed necessary. A completely new quality control program will be implemented by about 15 March.

(3) Attention has been focused on the Cockpit/Q-Bay seals. As you know, Article 342 had blown the hatch seal as a result of the seal having been pinched during installation of the hatch. Further examination revealed that the seal had deteriorated considerably from cracking. Other seals have been found with tiny pin holes--cause unknown. This was the case with those

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reported in Paragraph 2 of [redacted]3153. Three other seals, fresh out of their boxes at LAC, failed to pass functional tests.

(4) At the time of my visit to LAC on 1 March, the following actions were already in the mill: 25X1A5a1

(a) LAC had requested the [redacted] Company (manufacturers of the seals) to investigate all the above deficiencies and to institute an immediate product improvement program.

(b) LAC has commenced making quality control inspections on 100% of the seals delivered from 25X1A5a1 [redacted]. (They had been relying on [redacted] quality control previously.) LAC has also discussed [redacted] quality control procedures with them and has requested an improvement.

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(c) [redacted] is developing a new type seal at LAC's request. A prototype seal will be delivered to LAC by about 15 March. It will be flight checked on Article 352 as soon as possible. 25X1A5a1

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(d) LAC has requested [redacted] to produce these items. [redacted] was the original supplier and previously produced a heavier seal than [redacted] No known problems were encountered with their product. The switch to [redacted] was made 25X1A5a several years ago when [redacted] refused to continue making the seals, apparently because of the high reject rate they were experiencing.

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(e) A letter has been written to the LAC managers for Kelly Johnson's signature "stimulating" them to better quality maintenance with particular attention drawn to seal inspection. It was signed 1 March. We will receive a copy of this letter.

(5) In addition, we have requested LAC to establish new inspection procedures and a time-change requirement for all seals so as to preclude mission failures. LAC will issue complete instructions by message on 8 March.

b. DC Generator

The status of this item was covered in my memorandum of 8 March 1963, Subject: "DC Generator on U-2 Aircraft Equipped with ECM Systems."

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c. Autopilot

25X1A5a2 LAC was requested at our meeting of 30 January to develop an ECP for a new autopilot. This was confirmed in our message ADIC 2759, dated 6 February. LAC made an engineering study of a new [redacted] autopilot and, as a result, has received a proposal from [redacted] for a new system. In addition, LAC has evaluated the F-104 autopilot manufactured by [redacted] Both of these appear to be good systems. [redacted] has an appointment to discuss these two systems with Kelly Johnson on 11 March. A decision will be made at that time whether to continue with the [redacted] proposal or to consider [redacted] and possibly [redacted] and [redacted] systems as well. If the [redacted] proposal is accepted, an ECP can be submitted by about 30 March. It will take [redacted] approximately 90 days to produce a prototype U-2 autopilot and it will take LAC an additional 60 to 90 days for flight test and evaluation.

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what happened on this item?

d. Inverter

At our meeting of 30 January, we requested LAC to develop an ECP for a spare 500 VA inverter as backup for the main inverter and as replacement for the 100 VA spare inverter. This was confirmed in ADIC 2838, dated 7 February. LAC has completed an engineering study of this requirement and will submit an ECP by approximately 29 March. Essentially, the ECP will propose installation of a 750 VA [redacted] inverter as replacement for the present 500 VA [redacted] inverter. The present 100 VA inverter, which services the essential flight and engine instruments, and the present 250 VA inverter, which services the continuous ignition system, will be recommended for back-up. This combination, along with the AC alternator, will give us a 100% backup for all essential mission equipment.

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e. AC Alternator

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The 30 KVA AC alternator, which was flight checked for 150 hours on Article 352, has been dismantled by [redacted] and determined to have had no unusual wear. LAC has requested [redacted] to submit a proposal on this unit modified with "feeder fault" capability and over voltage-under voltage protection. An ECP is expected on this proposal by about 30 March.

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2. In summary, our relations with [redacted] are excellent. I must point out that he is new to his job and is still getting his feet on the ground. Albeit, he is most cooperative, highly knowledgeable, and extremely perservering. He is pressing ahead simultaneously on all fronts and at the same time is giving special attention to equally important crash projects we have thrust upon him such as; Q-Bay temperature and humidity study, vibration tests on Systems 14 and 15, System 9A installation and flight test, development of new EGT instrumentation, and joint development with [redacted] of the [redacted]. The funnel is rather narrow, and I think we are squeezing a lot through it. The time frames given us for completion of the various projects appear realistic. We will keep you advised on a regular basis on the progress of these projects.

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[redacted]

Materiel Division
OSA-DD/R

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